

## **“A STUDY ON THE FUTURE OF MICRO FARMERS IN WHITE REVOLUTION IN INDIA”**

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### **ABSTRACT**

While farmers' cooperatives of various types play a useful role in promoting rural development, dairy cooperatives have special attributes that make them particularly suitable. Among these, they can facilitate the development of remote rural economies, thus upgrading the standard of living of the poor. The common need of milk producers is to obtain a fair price for their milk and this is fulfilled through collective marketing. Milk is considered to be one of the most sensitive agricultural commodities, requiring special and timely care, and this can be provided conveniently as well through the collective operation of cooperative dairy societies. Apart from the collection and marketing of milk, other services, such as dairy inputs, extension services, veterinary health care, artificial-insemination services, provision of animal feed, fodder seed, planting material, fertilizers and credit, and training and education, can also be provided through cooperatives.

These would act as business associations owned and operated by members for their entire benefit. The farmer cooperative system has proved to be an effective vehicle for livestock development in general and for dairy development in particular in rural areas. Cooperatives provide farmers with an organizational arrangement at the grassroots level to assist them in planning, decision-making and implementing schemes that involve them and their families and that are designed to raise their socioeconomic standards. Including smallholders in market-oriented development requires doing development differently. We must innovate new processes and products across the entire value chain spectrum. We are inspired in this quest by monumental successes such as the White Revolution.

**KEYWORDS:** Milk Cooperatives, White Revolution, Dairy Sector, Marketing System, Small Holders

### **INTRODUCTION**

Milk production in India has come a long way over the years from a low volume of 110 million tonnes in 2009 to 112.5 million tons in 2010. Today, India is the world leader in milk production. The Indian dairy industry presently contributes about 15 % to the total milk production of the world. The Indian dairy market is currently growing at an annual growth rate of 7% at current prices. In today's context, a demand supply gap has become forthcoming in the dairy industry because of the dynamic demographic pattern, changing food consumption habits and the rapid urbanization of rural India.

This requires an inclusive growth of the dairy sector along with the rapidly growing Indian economy. Though current Government Schemes for the dairy sector shows patronage to cooperative societies and small farmers by fostering growth in the sector, there still exist gaps in terms of maximizing the value involved in the entire chain. Though the Government has been promoting some large scale private investments in the food processing sector through the Mega Food Parks and Cold Chain Infrastructure schemes, there has been not much progress in the dairy processing sector.

### **National Dairy Development Board**

Operation Flood in India, a project of the National Dairy Development Board (NDDB) was the world's biggest dairy development program. Which made India, a milk-deficient nation, the largest milk producer in the world, Surpassing the USA in 1998, with about 17 percent of global output in 2010–11, which in 30 years doubled the milk available per person, and which made dairy farming India's largest self-sustainable rural employment generator. All this was achieved not merely by mass production, but by production by the masses.

The Anand pattern experiment at Amul, a single, cooperative dairy, was the engine behind the success of the program. Varghese Kurien was made the chairman of NDDB by the then Prime Minister of India, Shri Lal Bahadur Shastri, and he was the chairman and founder of Amul as well. Kurien gave the necessary thrust using his professional management skills to the program, and is recognised as its architect.

Operation Flood has created a national milk grid linking milk producers throughout India with consumers in over 700 towns and cities, reducing seasonal and regional price variations while ensuring that the producer gets a major share of the price consumers pay, by cutting out middlemen. By reducing malpractices, it has helped dairy farmers direct their own development, placing control of the resources they create in their own hands.

The base of Operation Flood has been village milk producers' co-operatives, which procure milk and provide inputs and services, making modern management and technology available to members. Operation Flood's objectives included:

- Increase milk production
- Augment rural incomes
- Fair prices for consumers

India government has taken up Operation Flood Programme to increase the production of milk and make India one of the largest producers of milk in the world. The phenomenal increase in the production of milk in the country is christened as the White Revolution.

The White Revolution played a significant role in improving the living standards of the rural poor and consequently the rural economy. The co-operatives, which were set up to increase the production of milk in the villages, had played a key role in the progress of the rural economy. It will be no exaggeration if the prosperity in many of the Indian villages is attributed to the White Revolution.

The Operation Flood Programme had 73,930 dairy cooperatives by March 1997 covering more than three and half crore farmer members. Because of the innovative strategies adopted by these dairy cooperatives under the leadership of Dr. Kurien, the milk production reached the estimated level of 710 lakh tones during 1997-98. The Technology Mission on Dairy Development launched by the Government of India in 1988 is going all out to consolidate the gains of the White Revolution and increase the income and employment opportunities in the rural areas.

With increasing number of rural people taking to dairy projects to supplement their income, if not as a source of their main income, the milk production in the ensuing years is bound to increase dramatically, making India the largest producer of milk in the world. While we can take pride in our country emerging as the largest producer of milk in the world after a few years, this achievement will not be without problems. Can we consume the entire milk produced in the

country, this may not be possible given the fact that a large proportion of the Indian population does not have the economic strength to buy and consume the milk produced in the country.

So while the White Revolution has benefited the rural areas of our country considerably, the revolution may not be sustained beyond a point because of the lack of purchasing power of the poor Indians, and the bleak prospects on the export front. With these leading voices and others in mind, in 2010 we again revisited our strategy. Since our mission focuses on poor smallholder farmers, the challenge that preoccupied us was how we could involve those poor in market-oriented development. Without deliberate efforts, market opportunities tend to be captured more quickly by wealthier members of society.

### **Dairy Cooperatives**

As is generally well known, land is perhaps the most important income-generating asset in the rural economies of Asia. Yet, shortage of land and its skewed distribution are two of the major constraints of the rural Asian landscape. Close to 60 percent of the world's agricultural population lives in the villages of Asia, but its share of the world's agricultural land is only about 28 percent. This is much lower than in other developing regions. Furthermore, of this limited available land, a very large portion is comprised of holdings other than small farmers' holdings. While the conditions vary from country to country, small farmers in Asia, although accounting for more than two-thirds of the rural households, have access to only about 20 percent of the arable land. Against this background, economic activities that are not essentially land-based, such as dairying, have become crucial for small farmers and landless labourers.

While farmers' cooperatives of various types play a useful role in promoting rural development, dairy cooperatives have special attributes that make them particularly suitable. Among these, they can facilitate the development of remote rural economies, thus upgrading the standard of living of the poor.

The main constraint that milk producers seek to overcome by acting collectively is the marketing of their product. The need to be assured of a secure market is a real one. It can be met by dairy farmers cooperatively establishing their own collection system and milk treatment facility in order to convert their perishable primary produce, which requires special and timely attention, into products with longer-keeping quality for marketing purposes.

Most dairy cooperatives adopt either a two - or three - tier system. One village or a group of two or three villages forms the basic unit of the primary cooperative. Only dairy farmers are allowed to enrol as members and they must commit to supplying milk exclusively to the cooperative. While the day-to-day functioning of the cooperative is managed by full-time salaried employees, the committee or board of the cooperative, consisting of only elected members, makes the decisions on the affairs of the cooperative. Primary-level cooperatives bring together members with similar interests at village level to work towards common goals. This system can also identify good leadership talent that would be given a chance to develop through interaction with other community leaders.

A group of primary-level cooperatives forms a union, which can be for a district, region or milk shed area. This is the second tier. The third tier is the unions joining up to form a federation at state or national level, depending on the size and system of administration in the country. The federation has the power to act on such issues as pricing policies, extension, training, control of milk and milk product imports, subsidies and credit.

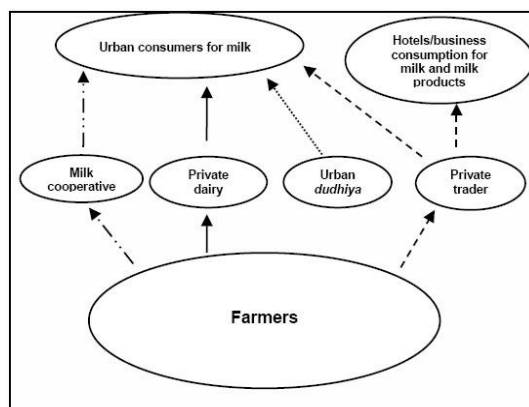
### **Rural Producers' Cooperatives**

The aim of a producers' cooperative is to provide services either free of charge or at a reasonable cost to its members. In addition, cooperative ownership emphasizes participation and control by member producers.

Individual members can influence policy and management matters through registered membership bodies that are regulated by laws or rules of a community or state.

The cooperative principles as enunciated by the International Cooperative Alliance are voluntary and open membership; democratic control; limited interest on credit; equitable division of surplus; training of members; and cooperation among cooperatives. Cooperative organizations are aware of the importance of member involvement and, through training programmes, try to increase participation in the affairs of the society.

### Overview of Dairy Marketing Channels in India



**Figure 1**

### SWOT Analysis of Performance Drivers

#### Strengths

- Large number of small and marginal farmers involved in dairying
- An effective marketing channel helps to meet the demands of the urban consumer
- Very large number of animals and huge scope to enhance productivity
- Self-sufficiency in medicine production and do not have to rely on exports

#### Weaknesses

- Large share of milk (70–85%) of marketable surplus goes through informal channel where quality is a big concern
- Sometimes quality is an issue in the formal channel as well
- Very little competition to cooperatives because private sector was not allowed to participate in until recently
- Farmers do not share in the benefits of high demand because of poor governance of cooperatives
- Milk production is scattered over a large number of farmers producing miniscule quantities
- Milk distribution is limited to urban and peri-urban areas
- Low milk prices because of lower prices declared by cooperatives, which results in low prices of milk paid by all players
- Ad hoc export policies and a ban on exports
- Quality of milk and milk products are a barrier to entry to the export market, especially the EU and the USA

- Lack of policy focus on strengthening indigenous breeds
- Non-existent extension facilities
- Farmers’ prices are not based on fat measurement, which affects their profitability
- Because of low access to credit and risk-taking ability, farmers cannot increase their herd size

### **Opportunities**

- Increased farmer income by exploiting the high demand
- Increased consumer sophistication and awareness of quality reception of quality packaged products (though slowly)
- Entry of large corporations in retailing, which can lead to more investment
- Immense scope to enhance governance of dairy farmer organizations and thus enable dairy farmers to demand higher prices
- Potential for exports due to low cost of production
- Overall positive growth environment, which is triggering the Government to enhance infrastructure

### **Threats**

- Large portion of the population does not care about quality issues in milk
- Because of high price sensitivity for dairy products, people are not willing to pay for quality
- Significant increase in maize prices can increase feed prices
- Large informal markets that extend credit are constraining farmers
- Low productivity and scattered production leading to high cost of transportation
- Emphasis on milk fat and not on SNF content maintaining relatively lower prices of milk

### **How to Build on Them**

- Strengthen economic viability of dairy farms by interventions on the input side as well as ensuring more fair farmer prices
- Increase the link between rural production areas and urban markets
- Focus on strengthening the indigenous breed to help significantly enhance productivity
- Ensure availability of quality medicines by strengthening regulatory framework for quality

### **How to Correct Them**

- Focus on quality issues even in the informal channel by training traders and by enforcing food quality regulations
- Develop infrastructure and training for clean milk production
- Support a fair playing field for the private sector

- Bring about changes in cooperatives to make them true representatives of farmers instead of functioning as parastatals.
- Support to dairying as an enterprise to encourage commercial dairy farming and encourage production and productivity by extension and breed development
- Enhance packaged milk distribution in more areas
- Strengthen dairy farmer cooperatives to enable farmers to get a higher price for milk
- Create rational export policy to enable farmers to take advantage of higher prices
- Strictly implement quality regulations and improve infrastructure and training for quality
- Strengthen the breed development programmes
- Strengthen extension facilities
- Create policy regulations to make mandatory testing as a basis for setting milk price
- Increase access to credit through dairy farmer organizations and other agencies

#### **How to Pursue Them**

- Create policies and activities geared towards enhancing dairy farming activity by increasing, production, productivity and ensuring fair farmer price of milk
- Establish enabling policy environment to enhance investment
- Create policy support to enhance governance of producer companies
- Focus on quality issues that are a barrier to exports
- Encourage private sector to increase investment in dairying

#### **How to Avert Them**

- Initiate consumer education about the negative health impacts of unpackaged products
- Develop packaging in small quantities to meet the needs of the poor
- Increase milk prices in accordance with feed prices
- Support expansion of dairy farmer organizations
- Enhance productivity by breed improvement and extension
- Enforce price setting of milk based on fat and SNF content to encourage production of cow milk

#### **Services Provided to Farmer Members**

- Breed improvement and animal healthcare programmes;
- Extension activities;
- Supplies of balanced cattle feed on a no profit–no loss basis;
- Quality fodder seed distribution at subsidized cost;

- A network of artificial insemination centres aimed at genetic upgrading of the animals using frozen semen of pedigree bulls; these centres are managed by educated unemployed rural youth who provide breeding services to the farmers;
- Frozen semen, liquid nitrogen and other consumables;
- 24-hour mobile veterinary services for emergencies.

### **Inclusive Market Oriented Development**

#### **Collective Action is Crucial**

By working together, small-scale farmers reduce costs, increase efficiency, share knowledge to raise productivity, provide mutual services to overcome resource limitations, gain clout to obtain better prices from suppliers and markets, and other benefits. We have seen collective action succeed in our community-based watershed management work and our work with women's self-help groups in India.

#### **Form New and Diverse Partnerships**

Engaging with markets requires including farmer associations, input suppliers, wholesalers, processors, retailers and others outside the traditional domain of research.

#### **Adapt Technologies to Smallholder Scales**

Seed of improved varieties and fertilizer, for example are being disseminated in mini-packs and micro-doses that smallholder farmers can afford.

#### **Don't Forget Finance**

Market orientation requires investment, but smallholders are usually cash-short. Approaches such as warrantee (inventory credit), microcredit and savings and credit cooperatives can overcome this barrier.

#### **Think Value Chains**

Begin by analyzing how the commodity moves from farm to fork (the dinner plate). Understand how much value is gained during each link of the chain and by whom, and how smallholders can capture a larger share of the benefits.

#### **Help Farmers Move up the Value Chain**

By taking ownership of additional links in the value chain such as processing and marketing, smallholders garner higher prices for their crops.

#### **Quality can be as Rewarding as Quantity**

Genetically improved dairy quality costs farmers little but enhances value substantially.

#### **Include Women**

Men are more likely to engage with markets, so special approaches are needed to make sure that women are included.

#### **Leverage the Power of Information and Communication Technology (ICT)**

ICTs revolutionize the reach, immediacy and interactivity of communications

## CONCLUSIONS

The common need of milk producers is to obtain a fair price for their milk and this is fulfilled through collective marketing. Milk is considered to be one of the most sensitive agricultural commodities, requiring special and timely care, and this can be provided conveniently as well through the collective operation of cooperative dairy societies. Apart from the collection and marketing of milk, other services, such as dairy inputs, extension services, veterinary health care, artificial-insemination services, provision of animal feed, fodder seed, planting material, fertilizers and credit, and training and education, can also be provided through cooperatives. These would act as business associations owned and operated by members for their entire benefit. The farmer cooperative system has proved to be an effective vehicle for livestock development in general and for dairy development in particular in rural areas.

The dairy cooperative has been recognized as an important means of organizing the supply of agricultural inputs, processing and marketing agricultural produce and providing agricultural credit, among other related activities. It has proved to be a strong economic institution and a vehicle for improving the condition of the impoverished rural population. Cooperatives provide farmers with an organizational arrangement at the grassroots level to assist them in planning, decision-making and implementing schemes that involve them and their families and that are designed to raise their socioeconomic standards. Including smallholders in market-oriented development requires doing development differently. We must innovate new processes and products across the entire value chain spectrum. We are inspired in this quest by monumental successes such as the White Revolution.

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